



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/892,973	06/27/2001	Hoon Huh	678-683 (P9823)	3813
66547 7590 08/20/2007 THE FARRELL LAW FIRM, P.C. 333 EARLE OVINGTON BOULEVARD SUITE 701 UNIONDALE, NY 11553			EXAMINER SHAH, CHIRAG G	
			ART UNIT 2616	PAPER NUMBER
			MAIL DATE 08/20/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/892,973

Applicant(s)

HUH ET AL.

Examiner

Chirag G. Shah

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15, 19-23, 29-43 and 47-51 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 9-13, 29-34, 37-41 and 47-49 is/are rejected.
- 7) ☒ Claim(s) 7, 8, 14, 15, 22, 23, 35, 36, 42, 43, 50 and 51 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.
2. Applicant's arguments and amendment filed 7/30/07 have been fully considered but they are not persuasive. Applicant argues that Padova, Piirainen or any combination thereof, fails to teach or reasonably suggest selectively checking for errors in the data packet in a received time slot according to whether the received C/I is greater than the first threshold, as recited in claims 1, 9 and 19. Examiner respectfully disagrees and redirects Applicant to Padova reference, specifically col. 6, lines 51-67 and col. 7, lines 18-36 and 59-67. Padova clearly establishes in the respective sections that the mobile station measures signal strength and C/I values and compares such values to a predetermined threshold. Furthermore, the mobile station identifies the best base station based on the quality of the forward link channel (e.g., the C/I measurement itself, the bit error rate (checking for error in the data packet at the time slot) or the packet error rate). Thus, examiner respectfully believes that claims 1, 9 and 19 respectfully remain unpatentable over the cited art.
3. Applicant also argues that Piirainen only discloses a general ARQ scheme and fails to disclose a condition for termination of retransmission, such as comparing a C/I with a threshold, as in the presented invention. Examiner respectfully disagrees and redirects Applicant to Piirainen reference, specifically col. 1, lines 28-48 and fig. 1. Piirainen clearly discloses in the respective section that when an error, such as a packet error is received, then a NAK signal is transmitted requesting for a retransmission. Piirainen further suggests that an ACK signal is

Art Unit: 2616

transmitted acknowledging that no packet error condition exists, thus no further retransmission of the packet is required. Thus, examiner respectfully believes that respective claims remain unpatentable over the cited art.

4. Applicant further argues that Padovani, Piirainen, or any combination thereof, fails to teach or reasonably suggest a device for decoding a data packet in a received time slot and selectively checking for errors in the decoded data packet according to whether the received C/I is greater than the first threshold determining a data rate corresponding to the received power is less than or equal to the first threshold, and requesting retransmission of the data packet to the AN by transmitting the determined data rate to the AN, as recited in claims 27, 37 and 49.

Examiner respectfully disagrees and response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the received power if the received power is less than or equal to the first threshold) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Furthermore, claim 27 is canceled and does not include any limitations.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

Art Unit: 2616

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-6, 9-13, 29-34, 37-41, and 47-49 rejected under 35 U.S.C. 103(a) as being unpatentable over Padovani et al. (U.S. Patent No. 6574211, herein after, Padovani in view of Piirainen et al. (U.S. Patent No. 6,425,105), herein after, Piirainen.

7. Referring to claims 1, 9, 19, 29, 37, and 47, Padovani discloses in col. 6, lines 51-67, figures 1 and 5 and in the abstract of an apparatus [mobile station] and a method for controlling transmission of a data packet from an access network (AN) [base station] an access terminal (AT) [mobile station] of a mobile telecommunication system where the AN [base station] transmits the data packet in successive time slots each having a plurality of data bits [as disclosed col. 6, lines 35-57 and illustrated in figure 5] and the AT [mobile station] receives the data packet

Art Unit: 2616

from the AN [as illustrated in figure 5 and disclosed in col. 6, lines 51-67], the apparatus comprising step of:

a device for comparing a C/I of a forward pilot signal received from the AN [base station] with a predetermined first threshold [as disclosed in col.6, lines 51-67, the mobile station measures the signal-to-noise-and interference ration C/I of the forward link pilot from the base station in the active set, as received at the mobile station and compares the received pilot signal with a predetermined add threshold];

a device for decoding a data packet in a received time slot and selectively checking for errors in a received time slot in the decoded data packet if the received C/I is greater than the first threshold [the mobile device receives data transmission and selectively decodes all the data packet and obtains the C/I of the forward link signals based on measuring the pilot signals and the mobile stations are able to identify either missed or duplicate transmissions or determine the bit error rate or packet error rate, see col. 7, lines 18-36 and lines 59-67; and see col. 6, lines 57-67, where it is established that the above occurs when the received C/I is above a predetermined threshold]; and

Padovani teaches in col. 7, lines 18-47 and 59 to col. 8, lines 7 and in the abstract that if errors occurs, the mobile stations communicate via the reverse link channel a NACK to communicate with the base station for retransmission. Padovani, however, fails to disclose a device for transmitting a signal requesting termination of retransmission of the data packet to the AN if no errors are found in the data packet

Piirainen teaches of automatic repeat request to request a retransmission of the corrupted data. Piirainen discloses in col. 1, lines 28-38 that the receiver sends a NAK signal to request a

Art Unit: 2616

retransmission of a coded signal block detected in error and the receiver sends an ACK signal to acknowledge a correct reception. The ACK signal to the transmitter suggests of requesting termination of the retransmission of the data packet since the data packet was not corrupted.

Therefore, it would have been obvious to one of ordinary skills in the art to modify the teachings of Padovani to include transmitting the ack signal from the receiver to the transmitter upon detecting no errors in order to provide a consistent state transition. The motivation of a consistent state transition constitutes further delay from arising and reduction in overhead.

8. Referring to claims 2, 10, 20, 30, 38, and 48, Padovani further discloses comprising the steps of:

determining whether it is a low data rate using a length of a preamble of the received data packet [as disclosed in col. 23, lines 31-37, length of the a preamble is a function of the data packet as illustrated in table 3]; and

proceeding further with the comparison step if the determined data rate is the low data rate, wherein the low data rate repeatedly transmits the same packet two times or more [as disclosed in col. 25, lines 66 to col. 26, lines 10 that when a base station has less data to transmit to mobile station than the space available in the data field, packet format 430 is used, which allows a base station to transmit any number of data units up two the maximum number of data units, suggesting that same packet may be repeatedly transmitted two time].

9. Referring to claims 3, 11, and 31, Padovani further discloses of comprising:

a device for determining a data rate corresponding to the received C/I if errors are found in the decoded data packet [as disclosed in the abstract, in addition to disclosure in col. 7, lines

Art Unit: 2616

18-30 and lines 59 to col. 8, lines 19, and claim 5, the data rate is determined by the largest C/I measurement of the forward link signals corresponding to determination of data packets received in errors], and

a device for requesting retransmission of the data packet by transmitting the determined data rate to the AN [as disclosed in the abstract, upon determination of data packets received in error, the mobile station transmits a NACK message back to the base station for retransmission of packets received in error] as claim.

10. Referring to claims 4, 13, 32, and 39, Padovani discloses further of comprising:

a device for determining a data rate corresponding to the received C/I if the received power is equal to or less than the first threshold [as disclosed in col. 6, lines 49-67, the mobile station measures the signal-to-noise-and-interference ratio (C/I) of the forward link pilot from the base stations in the active set and if the received pilot signal is below a predetermined first drop rate, the mobile station reports this to the base station]; and

a device for requesting retransmission of the data packet by transmitting the determined data rate to the AN [Padovani discloses in col. 7, lines 18-47 and 59 to col. 8, lines 7 and in the abstract that if errors occurs, the mobile stations communicate via the reverse link channel a NACK to communicate with the base station for retransmission] as claim.

11. Referring to claims 5, 12, 33, and 40, Padovani discloses further of comprising:

a device for comparing the received power with a predetermined second threshold if the received C/I is equal to or less than the first threshold [as discloses in col. 6, lines 49-67, the

mobile device compares if the received pilot signal C/I is above a predetermined add threshold or below a predetermined drop threshold]; and

Padovani discloses if the receive pilot signal is above a predetermined add threshold or below a predetermined drop threshold, the mobile station reports this to the base station, in other words, a retransmission is needed, since the received power is less than the second threshold and the power falls within the range of two thresholds, no error has occurred.

However, Padovani fails to disclose of transmitting the signal requesting termination of retransmission. Piirainen teaches of automatic repeat request to request a retransmission of the corrupted data. Piirainen discloses in col. 1, lines 28-38 that the receiver sends a NAK signal to request a retransmission of a coded signal block detected in error and the receiver sends an ACK signal to acknowledge a correct reception. The ACK signal to the transmitter suggests of requesting termination of the retransmission of the data packet since the data packet was not corrupted. Therefore, it would have been obvious to one of ordinary skills in the art to modify the teachings of Padovani to include transmitting the ack signal from the receiver to the transmitter upon detecting no errors in order to provide a consistent state transition. The motivation of a consistent state transition constitutes further delay from arising and reduction in overhead.

12. Referring to claims 6, 21, 34, 41 and 49, Padovani further discloses of comprising:

a device for comparing the received power with a predetermined second threshold if the received C/I is equal to or less than the first threshold [as discloses in col. 6, lines 49-67, the

Art Unit: 2616

mobile device compares if the received pilot signal C/I is above a predetermined add threshold or below a predetermined drop threshold];;

a device for determining the data rate corresponding to the received power if the received power is equal to or greater than the second threshold [as disclosed in col. 7, lines 49-67]; and

a device for requesting retransmission of the data packet by transmitting the determined data rate to the AN [as disclosed in col. 7, lines 18-47 and 59 to col. 8, lines 7 and in the abstract that if errors occurs, the mobile stations communicate via the reverse link channel a NACK to communicate with the base station for retransmission].

Allowable Subject Matter

13. Claims 7, 8, 14, 15, 22, 23, 35, 36, 42, 43, 50, and 51 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chirag G. Shah whose telephone number is 571-272-3144. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patel Jay can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2616

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

cgs

August 16, 2007



Chirag Shah
Patent Examiner, 2616

CHIRAG G. SHAH
PRIMARY PATENT EXAMINER